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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,575	08/21/2000	Richard D. Gunlock	P00-3223	871-1

7590 01/05/2004

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EXAMINER

TON, ANTHONY T

ART UNIT	PAPER NUMBER
2661	2

DATE MAILED: 01/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/642,575

Applicant(s)

GUNLOCK, RICHARD D.

Examiner

Anthony T Ton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAIL ACTIONS

Drawings

1. New corrected drawings are required in this application because a hand drafting in Figures 13-15 is very difficult to read; therefore, a formal drafting should be provided for the drawings. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.
2. Terms "**No**" and "**Yes**" in box 1002 in Fig. 10 are not appropriate to the meaning of the No and Yes. It is suggested to swap these terms to one for another.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "**1125**" in Figure 11 has been used to designate both "Increment Node Q Depth by 5" and "Node Q Depth = MAXIMUM". It is suggested to change this reference character to "**1120**"; refer to page 25 line 30 of the specification for the change. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:
 - a) Page 1 lines 5 and 11: The Serial Numbers of the applications titled "Data Structure and Method for Tracking Network Topology in a Fibre Channel Port Drivers"

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and "Method for Recovery of Paths Between Storage Desperation Repair" should be cited out.

b) Page 14 line 3: Term "cache 202 and 204"; it is suggested to change this term to "**caches** 202 and 204" because it is plural.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Isoda et al. (US 6,647,016).

a) **Regarding to Claim 1:** Isoda et al. disclosed an initiator node for a storage area network, the node intended to be coupled over a storage area network to at least

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one storage node having command queue capability, the initiator node (see Fig. 2) comprising:

at least one processor capable of executing instructions (see CPU in Fig. 24 and col.6 lines 47-59);

a memory system (having stored a current queue depth (see RAMs in Fig.24 and col.7 lines 31-51; and labels 203a – 203d in Fig.2), and a maximum queue depth associated with each storage node of the at least one storage node (see denominator of label 203e in Fig 2; col.9 line 3 – col.10 line 5);

wherein the memory system stores

instructions for initializing the maximum queue depth for the at least one storage node to a value dependent on a type of the at least one storage node (col.11 lines 49-59 and col.19 lines 54-56)

instructions for limiting the number of commands queued to a storage node of the at least one storage node to the current queue depth associated with the storage node (see col.3 lines 43-46; and col.3 line 65 – col.4 line 2), and

instructions for dynamically adjusting the current queue depth associated with the storage node based upon queue refusals generated by the storage node and the maximum queue depth associated with the storage node (col.4 lines 3-12).

b) Regarding to Claim 2: The initiator node of Claim 1, wherein the instructions for dynamically adjusting the current queue depth include instructions for adjusting the current queue depth associated with a storage node downwardly when the current queue depth is greater than a minimum queue depth and the storage node refuses to

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queue a command issued by the initiator node (col.9 lines 42-51), and for adjusting the current queue depth upwardly when the current queue depth is less than the maximum queue depth associated with the storage node and that storage node has not refused to queue any commands issued by the initiator node for a determined period of time (col.7 line 7-9; col.9 lines 52-65; and col.10 lines 48-53)

c) **Regarding to Claim 3:** The initiator node of Claim 2 wherein the instructions for dynamically adjusting the current queue depth include instructions for monitoring logins, and for adjusting the current queue depth downwardly when a login by an additional initiator node is recognized (see Figs.16 and 17 and their descriptions; col.21 lines 33-40; and col.22 lines 22-27).

d) **Regarding to Claim 4:** All subject matters of the claimed invention of claim 4 are the same as that of claims 1-3 in a method as taught.

Allowable Subject Matter

7. Claims **5-9** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Citation of Relevant Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Patent number of the prior art listed below is considered as citation of relevant prior art in the field of the invention relates to dynamic command

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queue depth adjustment for storage area network nodes: Latif et al. (US 6,400,730); Su et al. (US 6,625,161); Miller et al (US 6,553,036); Sicola et al. (US 6,601,187; US 6,643,795; and US 6,658,540); Shah et al. (US 6,470,397); Cummings et al. (US 5,930,483); Gharachorloo et al. (US 6,622,217); Duong-Van Minh (US 6,600,752); and Bumenau et al. (US 6,502,162 and US 6,665,714).

Examiner Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Ton whose telephone number is 703-305-8956. The examiner can normally be reached on Monday-Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms, can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

ATT


KENNETH VANDERPUYE
PRIMARY EXAMINER